

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re application of: Confirmation No. 2140

Sashikanth Chandrasekaran, et al. Examiner: Te Y. Chen
(Appellants) Group Art Unit No.: 2161

Serial No.: 10/056,716

Filed: January 22, 2002

For: SEMANTIC RESPONSE TO LOCK REQUESTS TO REDUCE COHERENCE
OVERHEAD IN MULTI-NODE SYSTEMS

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P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANTS' APPEAL BRIEF

Sir:

Applicants/Appellants hereby submit this Appeal Brief in support of the Notice of Appeal filed on October 4, 2007.

I. REAL PARTY IN INTEREST

Oracle International Corporation, of Redwood Shores, California, is the real party in interest.

II. RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any related appeals or interferences.

III. STATUS OF CLAIMS

Claims 1 – 7 and 23 – 30 are cancelled. Claims 8 – 15 are withdrawn from examination. Claims 31 – 44 are pending this application, and are the subject of this appeal.

IV. STATUS OF AMENDMENTS

No amendments were filed after the Final Office Action.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Claims 31 and 38 are independent. These independent claims recite similar features, except in the context of a method (claim 1) and a computer-readable medium (claim 14).

Independent claims 31 and 38 provide a solution to a problem of facilitating the resolution of locking contention in a computer system. A requestor whose lock is prevented by a blocking condition can obtain information that is used to learn of when the blocking condition is no longer in effect. The specification defines a blocking condition as any condition that prevents a process from acquiring a particular lock on a resource or accessing the resource in a particular way. (page 12, line 19 – 26)

Claims 31 and 38 recite a "requester receiving from [a] lock management system a response," to a "request for a certain lock on a first resource," that "(1) denies said request" because of a block conditioning and that "(2) includes data that identifies [a] second resource". (Specification, page 14 line 20 – page 15, line 6, page 16, lines 5 – 10, and figure elements cited therein within FIG. 5) "[R]equester transmit[s] to said lock management system a request for a lock on said second resource" to "determine[e] said blocking condition is no longer in effect." (Specification, page 16, lines 11 – 16)

Thus, claims 31 and 38 require a response for denying a first lock request because of a blocking condition, where the response includes data that identifies a second resource for which a second lock may be requested to determine whether the blocking condition is no longer in effect. The cited art fails to suggest in any way much less disclose this feature.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 31 – 44 are rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

2. Claims 31 – 33, 36 – 40 and 43 - 44 are rejected under 35 USC 102(b) as being anticipated by U.S. Patent No. 5,721,943 (herein "Johnson").

2. Claims 34 – 35 and 41 – 42 are rejected under 35 USC 103(a) as being unpatentable over Johnson in view of U.S. Patent No. 6,336,134 (here after Varma).

VII. ARGUMENT

A. Rejections based on 35 USC 112, second paragraph

The Examiner alleges that claims 31 – 44 fail to particularly point out and distinctly claim the subject matter regarded as the invention for several reasons. First, both claims 31 and 38 “claim a certain lock” in several limitations. Second, the term “certain lock” means cannot be discerned.

“The requirement to ‘distinctly’ claim means that the claim must have a meaning discernible to one of ordinary skill in the art when construed according to correct principles....Only when a claim remains insolubly ambiguous without a discernible meaning after all reasonable attempts at construction must a court declare it indefinite.”). (id., citing Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings, 370 F.3d 1354, 1366, 71 USPQ2d 1081, 1089 (Fed. Cir. 2004)

The Examiner alleges that more than one occurrence of the term “a certain lock” in both claims 31 and 38 leads to indefiniteness. The term is an adjective phrase used to modify the term “a request” In the first occurrence, where the request is introduced, the adjective phrase is used in the term “a request for a certain lock on a first resource”. In the second occurrence, the term is referred to again using the same adjective phrase. To indicate these

occurrences of the same term refer to the same element, the second occurrence is introduced with the adjective “said”, (i.e. “**said** request for a certain lock on a first resource”). There is no ambiguity here.

Also, the Examiner alleges that using the term “certain” cannot be discerned. However, those of ordinary skill in art recognize that the term “certain” is being used in the well known sense as an adjective that means “definite or particular, but not named or specified”. (See *certain.* Dictionary.com Unabridged (v 1.1). Random House, Inc. 03 Jan. 2008. <Dictionary.com <http://dictionary.reference.com/browse/certain>>).

B. Rejections Based on 102(e)

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

a. Claims 31 and 38

Claims 31 and 38 recite a "requester receiving from [a] lock management system a response," to a "request for a certain lock on a first resource," that "(1) denies said request" because of a blocking conditioning and that "(2) includes data that identifies [a] second resource", and the "requester transmitting to said lock management system a request for a lock on said second resource" to "determine[e] said blocking condition is no longer in effect." Thus claims 31 and 38 require a response for denying a first lock request because of a blocking condition, where the response includes data that identifies a second resource for which a second lock may be requested to determine whether the blocking condition is no longer in effect. The cited art fails to suggest in any way much less disclose this feature.

The Examiner alleges that Johnson's teachings regarding a process of requesting inference locks for a rules engine, as depicted in FIGS. 6, describe these features. However,

like the rest of Johnson, these teachings do not suggest in any way much less disclose the above highlighted features of claims 31 and 38.

Passages describing the process of requesting inference locks are at col. 7, lines 15 – 52. The two passages describe that when a lock on a rule entity is requested a check is made for a temporary lock. If there is such a lock, processing is suspended until the temporary lock is removed. If the lock request is granted, either because the lock was relinquished or the rule entity was never locked, then information about the lock holder (grantee) is recorded.

The second passage describes what specifically happens when a lock is denied. It states that "operation 134 sets the request result to "DENIED". Johnson describes no other response specific to denying a lock request. Simply setting a request result to DENIED cannot possibly suggest in any way much less disclose a response for denying a first lock request because of a blocking condition, where the response includes data that identifies a second resource, one for which a second lock request may be made to determine whether the blocking condition is no longer in effect, as claimed.

After setting the request result to DENIED, subsequent operations follow which are performed not just specifically for denying the lock request but also for granting the lock request. (col. 7, line 65 – col. 8, line 4) These subsequent operations include deleting a record generated to record the temporary lock and executing late notification routines to notify programs that a lock has been granted. (id., see also col. 3, lines 42 – 45 for description of late notification routines). None of these subsequent operations suggest in any way much less disclose a response for denying a first lock request because of a blocking condition, where the response includes data that identifies a second resource, one for which a second lock request may be made to determine whether the blocking condition is no longer in effect, as claimed.

The Examiner also states that Applicant is arguing limitations not in the claims. While the language of the argumentation may not use the exact phraseology of claims, all the

features that applicant argued were carefully correlated to the claim language in a specific passage in the previous Office Action responses and herein.

b. Claims 32 and 39

Claims 32 and 39 recite that the "second resource is a transaction and said first resource is a resource locked for said transaction." Thus, claims 32 and 39 require a response for denying a first lock request because of a blocking condition, where the response includes data that identifies the transaction as the second resource. This feature is not suggested in any way much less disclosed by the cited art.

Johnson does teach a form of a transaction referred to by Johnson as an inference transaction. Further, Johnson does teach that when a lock is granted that an "identifying record is made ... containing the lock data" preferably including "a unique transaction identifier (txid), a session identifier, a lock identifier, an inference transaction identifier (intrxid), a rule entity identifier, a delay or immediate indicator, an identifier indicating whether early, late, or no notification is needed."(emphasis added). Thus, Johnson does teach that a transaction id is generated and stored as part of a response. However, the response is a response to granting a lock request rather than to denying a lock request, as claimed

C. Rejections Based on 103(a)

Claims 34 – 35 and 41 – 42 are rejected under 35 USC 103(a) as being unpatentable over Johnson in view of Varma.

"Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.'" KSR Int'l Co. v. Teleflex Inc., 127 S.Ct. 1727, 1734, 82 USPQ2d 1385, 1391 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior

art, (2) any differences between the claimed subject matter and the prior art.... Graham v. John Deere Co., 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). See also KSR, 127 S.Ct. at 1734, 82 USPQ2d at 1391. "If a court, or patent examiner, conducts this analysis and concludes the claimed subject matter was obvious, the claim is invalid under §103."

In the present matter, the Examiner has made clearly erroneous factual findings regarding the scope and content of the prior art, and in particular, what certain cited prior art references teach. Therefore, the Examiner's analysis and the rejection based thereon are invalid.

a. Claims 34 – 35 and 41 – 42

Claims 34 – 35 and 41 - 42 incorporate the limitations of 31 and 38 respectfully. As mentioned previously, Johnson fails to suggest in any way much disclose the limitations of claims 31 and 38. Varma fails to cure this deficiency, and neither has the Examiner alleged so. Therefore, the cited art fails to teach all the limitations of claims 34 – 35 and 41 – 42.

b. Claims 34 and 41

Claims 34 and 41 recite that the blocking condition is based on a data block undergoing a block split operation. Only Varma has been relied on by the Examiner for teaching this feature, and such a teaching is absent from Varma.

c. Claims 35 and 42

Claims 35 and 42 require that a data block is marked to indicate it is undergoing said block split operation. Only Varma has been relied on for teaching this feature, and such a teaching is absent from Varma.

CONCLUSION AND PRAYER FOR RELIEF

Based on the foregoing, it is respectfully submitted that all the rejections lack the requisite legal and factual basis.

If any fee is missing or insufficient, the Director is hereby authorized to charge any applicable fee to our Deposit Account No. 50-1302.

Respectfully submitted,

HICKMAN PALERMO TRUONG & BECKER LLP

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/MarcelKBingham#42327/
Marcel K. Bingham
Reg. No. 42,327

2055 Gateway Place, Suite 550
San Jose, California 95110-1089
Tel: (408) 414-1080x208
Fax: (408) 414-1076

VIII. CLAIMS APPENDIX

31. A method, the method comprising the steps of:
 - a requester transmitting to a lock management system a request for a certain lock on a first resource;
 - said lock management system denying said request based on a blocking condition that, while in effect, said lock management system does grant a request for a lock on a second resource different than said first resource;
 - said requester receiving from said lock management system a response that (1) denies said request for a certain lock on a first resource and (2) includes data that identifies the second resource; and
 - said requester determining said blocking condition is no longer in effect by performing certain steps that include:
 - said requester transmitting to said lock management system a request for a lock on said second resource; and
 - said requester receiving from said lock management system a response that grants said request for said lock on said second resource.
32. The method of claim 31, wherein said second resource is a transaction and said first resource is a resource locked for said transaction.
33. The method of claim 32, wherein said data that identifies a second resource includes a transaction id identifying said transaction.
34. The method of claim 31, wherein:
 - said first resource is a data block; and

said blocking condition is based on said data block undergoing a block-split operation.

35. The method of claim 34, wherein said data block is marked to indicate the data block is undergoing said block split operation.
36. The method of claim 31, further including in response to determining when said blocking condition no longer prevents said lock management system from granting a lock on said first resource, said requester informing said lock management system that said blocking condition is no longer in effect.
37. The method of claim 31, further including said requester informing said lock management system that said blocking condition is no longer effect by making another request for a lock of said first resource, said request including data specifying that said blocking condition is no longer effect.
38. A computer-readable medium carrying one or more sequences of instructions, wherein execution of the one or more sequences of instructions by one or more processors causes the one or more processors to perform the steps of:
 - a requester transmitting to a lock management system a request for a certain lock on a first resource;
 - said lock management system denying said request based on a blocking condition that, while in effect, said lock management system does grant a request for a lock on a second resource different than said first resource;

said requester receiving from said lock management system a response that (1) denies said request for a certain lock on a first resource and (2) includes data that identifies the second resource; and

said requester determining said blocking condition is no longer in effect by performing certain steps that include:

said requester transmitting to said lock management system a request for a lock on said second resource; and

said requester receiving from said lock management system a response that grants said request for said lock on said second resource.

39. The computer-readable medium of claim 38, wherein said second resource is a transaction and said first resource is a resource locked for said transaction.

40. The computer-readable medium of claim 39, wherein said data that identifies a second resource includes a transaction id identifying said transaction.

41. The computer-readable medium of claim 38, wherein:

said first resource is a data block; and

said blocking condition is based on said data block undergoing a block-split operation.

42. The computer-readable medium of claim 41, wherein said data block is marked to indicate the data block is undergoing said block split operation.

43. The computer-readable medium of claim 38, the steps further including in response to determining when said blocking condition no longer prevents said lock management

system from granting a lock on said first resource, said requester informing said lock management system that said blocking condition is no longer in effect.

44. The computer-readable medium of claim 38, the steps further including said requester informing said lock management system that said blocking condition is no longer effect by making another request for a lock of said first resource, said request including data specifying that said blocking condition is no longer effect.

IX. EVIDENCE APENDIX

None.

X. RELATED PROCEEDINGS APENDIX

None.